



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/937,817	11/29/2001	Hans-Matthias Horn	25045-11	5465

7590 08/21/2003

John B Hardaway III
Nexsen Pruet Jacobs & Pollard
PO Box 10107
Greenville, SC 29603

EXAMINER

CURTIS, CRAIG

ART UNIT

PAPER NUMBER

2872

DATE MAILED: 08/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/937,817

Applicant(s)

HORN ET AL.

Examiner

Craig H. Curtis

Art Unit

2872

H

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 27 September 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 1.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Disposition of the Instant Application

- This Office Action is responsive to Applicants' Preliminary Amendment A filed on 27 September 2001 and made of record in the file as Paper No. 5.
- By this Amendment, Applicants have cancelled original claims 1-12 and have newly added claims 13-29. Accordingly, claims 13-29 currently are pending in the instant application.

Claim Objections

1. **Claims 13-29 are objected to because of the following minor informalities:** In **claim 13**, the phrases "...wherein said protective sheath comprising..." & "...having a melting point less than 220°C a concentration of amino terminal groups between 50 and 300 meg/g and a maximum concentration of carboxyl terminal groups no greater than 15 meg/g." should be changed such that they read, respectively, as follows (N.B. underlined text): "...wherein said protective sheath ~~comprising~~ comprises..." & "...~~having~~ has a melting point of less than 220°C, a concentration of amino terminal groups between 50 and 300 ~~meg~~ meg/g, and a maximum concentration of carboxyl terminal groups no greater than 15 ~~meg~~ meg/g." In **claims 14 and 24**, the recitation "meeting point less than" should be changed to "melting point of less than". In **claim 22**, the recitation "fluorine-container" should be changed to "fluorine-containing". In **claim 23**, please refer to the comments made above regarding the similar "...having a melting point less than...." phrase recited in claim 13. **Appropriate correction is required.**

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 19 & 29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. More specifically, an improperly recited Markush group is recited in each of these claims.

Applicants are reminded that alternative expressions are permitted within Markush groups if they present no uncertainty or ambiguity with respect to the question of scope or clarity of the claims. See *MPEP §803.02, §2173.05(h)*. In the present case, the individual elements comprising the improperly recited Markush group (i.e., UV stabilizers, heat stabilizers, crystallization promoters, softeners, flame retardants, external lubricants, and inorganic fillers) cannot reasonably be considered either to share a common utility or to be so closely related that they may be grouped together under a single genus.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 13-18 & 20-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto et al. (4,593,974) in view of Yang et al. (6,064,790).

With regard to claims 13 and 23, Yamamoto et al. disclose the invention as claimed--an optical wave guide having at least one plastic optical fiber (see Fig. 2) comprising a plastic optical fiber core (6: col. 3, ll. 29-31), a fluorine-containing fiber cladding (7: col. 3, ll. 45-54), and a protective sheath (8: col. 3, ll. 25-27) self-adhesively applied to said at least one plastic optical fiber (col. 7, ll. 34)--**EXCEPT FOR** express teachings of the following additionally recited limitations: wherein said protective sheath comprising (*read: comprises*) polymeric compounds selected from the group consisting of polyamides, copolyamides and mixtures thereof having (*read: has*) a melting point less than (*read: of less than*) 220° C, a concentration of amino terminal groups between 50 and 300 $\mu\text{eq/g}$, and a maximum concentration of carboxyl terminal groups no greater than 15 $\mu\text{eq/g}$.

Yang et al., however, provide an express teaching of coating optical fibers with an outer layer (*read: protective sheath*) of polyamide or copolymers of same. See col. 1, ll. 57-61. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the invention of Yamamoto et al. such that its protective sheath comprise polymeric compounds selected

from the group consisting of polyamides, copolyamides, and mixtures thereof, as expressly taught by Yang et al., for at least the purpose of protecting said plastic optical fiber in a cost-effective manner.

Yang et al. further expressly disclose wherein said thermoplastic (*read:* polyamide or copolymers of same) preferably have a melting point of at most 190⁰ C, and although Yang et al. do not provide express teachings of the additionally recited concentrations of amino terminal groups and carboxyl terminal groups associated with said protective sheath comprising polymeric compounds selected from the group consisting of polyamides, copolyamides and mixtures thereof, Yang et al.'s teaching of polyamides or copolymers of same is inherently deemed as meeting such recitations, because the polyamides or copolymers of same disclosed by Yang et al. (e.g., PA 12) inherently possess such concentrations.

With regard to claims 14 & 24, the combination expressly meets the additional limitation wherein said polymeric compounds have a melting point [of] less than 210⁰ C. See above.

With regard to claims 15 & 25 & 27 and 16 & 26, respectively, the combination expressly meets the additional limitations wherein said polyamides are selected from the group consisting of PA 11, PA 12, PA 610, PA 612, and PA 1212 (namely, PA 12) & said copolyamides are selected from the group PA 6/12, PA 6/9/6, etc. (namely, PA 6/12). See Yang et al.: col. 1, ll. 57-61.

With regard to claim 17, Yang et al. expressly discloses wherein at least one polyamide comprises PA 12. *Id.*

With regard to claims 18 & 28, the inherent teaching by the combination wherein said protective sheath has a concentration of amino terminal groups between 50 and 300 $\mu\text{eq/g}$ encompasses the range recited in this claim.

With regard to claim 20, the combination provides an explicit teaching wherein said plastic fiber core is formed from polymethymethacrylate (read: polymethylmethacrylate). See Yamamoto et al.: col. 3, ll. 28-30.

With regard to claims 21 & 22, the combination meets the recited dimensions. See Yamamoto et al.: col. 8, ll. 47-62).

4. Claims 19 & 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto et al. (4,593,974) in view of Yang et al. (6,064,790), as applied to, inter alia, claims 13 and 23 above, and further in view of Dalla Torre et al. (6,153,677).

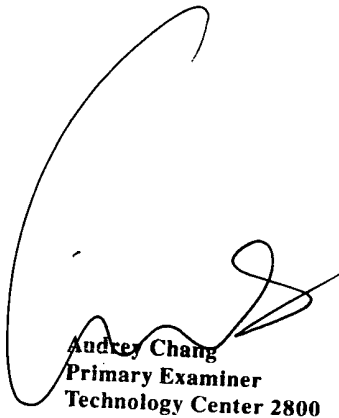
The combination discloses the claimed invention as set forth above **EXCEPT FOR** an additional teaching wherein said protective sheath further comprises at least one additive selected from the group consisting of UV stabilizers, heat stabilizers, crystallization promoters, softeners, flame retardants, external lubricants, and inorganic fillers.

Dalla Torre et al., however, provide an explicit teaching wherein a polyamide composition is rendered flame-retardant via the addition of a flame retarding additive. See Abstract, entire document. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the invention of the combination such that its protective sheath further comprise at least a flame retardant, as expressly taught by Dalla Torre et al., for at least the purpose of rendering said invention of the combination relatively impervious to flames.

Contact Information

5. Any inquiry concerning this or earlier communications from the examiner should be directed to Craig Curtis, whose telephone number is (703) 305-0776. The facsimile phone number for Art Unit 2872 is (703) 308-7722.

Any inquiry of a general nature regarding the status of this application should be directed to the Group receptionist, whose telephone number is (703) 308-0956.



Audrey Chang
Primary Examiner
Technology Center 2800

Craig H. Curtis
Craig H. Curtis
Group Art Unit 2872
12 August 2003